The Ontario Butternut Recovery Team encourages landowners to:

- keep all butternut around as long as possible
- remove only those trees that are dead or dying (see retainable tree guidelines)
- plant butternut
- report – tell us about your butternut
  - to increase our knowledge about where and how quickly it is dying; where it is regenerating.
  - to help locate vigorously surviving trees that may be showing genetic resistance.

For more information about butternut, to obtain a butternut reporting package, *Or* to Donate to the Butternut Recovery Fund go to:

www.fgca.net

Or call

The Ontario Woodlot Association at:

1-888-791-1103

They will pass your contact information to the *Ontario Butternut Recovery Team*

Supported by The Government of Canada Habitat Stewardship Program for Species at Risk

Canada

How to Identify Butternut

Open grown butternut trees have a short trunk with a broad, spreading crown. In the forest they have taller, less branchy trunks with smaller crowns. The small branches tend to bend downward and turn up at the ends. Butternut (also known as white walnut) and black walnut can be confused. Also, people have been growing exotic walnuts and creating hybrids in North America since the 1800's – they are not uncommon in urban and long settled areas. For now the Ontario Butternut Recovery Team is concentrating on the pure, native species. Review this table to help you identify what species you have. Also consult the Butternut Extension Note at www.lrconline.com

	Butternut *Juglans cinerea* Larger range than black walnut, north into central and eastern Ontario	**Black Walnut** *Juglans nigra* Native to southwestern Ontario	**Butternut hybrids & exotic walnuts**
Twigs	• Thick, buff coloured • Quite fuzzy • Chambered pith is narrow and dark brown (2 yr twig) • Hairy fringe above each leaf scar • Upper margin of leaf scar straight	• Thick, orange-brown • Slightly fuzzy • Chambered pith is orange-yellow • No hairy fringe above leaf scar • Upper margin of leaf scar is notched	If your tree has a few of these characteristics, you might have a hybrid or exotic walnut tree: • A planted tree • Little sign of canker • Pith is wider and lighter brown (top 2 yr twig; bottom twig is butternut)
Buds	• Fuzzy • Terminal bud is elongated and blunt	• Slightly fuzzy • Terminal bud is rounded and blunt	
Leaves	• Compound with 11-17 leaflets • 40 cm long • All leaflets same size • Leaflets are stalkless • hairy underside	• Compound with 15-23 leaflets • 30 cm long • Terminal leaflet smaller or missing • Leaflets are stalked • Slightly hairy underside	• Leaves stay green and on tree in the fall weeks later than other native species • Male catkins longer than 15 cm • Good seed crops almost every year • Heart shaped nut shell
Bark	• Young – Ash grey, smooth • Mature – wide, flat topped, diamond pattern ridges	• Young – light brown, scaly • Mature – dark brown, deep, intersecting ridges	
Seed	• Oval shape • Smooth, sticky, hairy husk • Inner nut shell has very rough ridges • Oily, sweet nut kernel	• Round shape • Smooth, slightly hairy husk • Inner nut shell has rough ridges • Oily, strong-flavoured nut kernel	

Photo credits: B. Kowalyk, D. Coleman, E. Czerwinski, S. Robinson, B. Boysen, G. Bales – OMNR; M. Ostry, USDA Forest Service; A. Crichton

A Landowner's Guide to

Butternut and Butternut Canker

in Ontario

You can help this endangered species

Tell us about your butternut

Forest Gene Conservation Association

Butternut *(Juglans cinerea)* is an endangered species, threatened by a fungal disease called Butternut Canker (*Sirococcus clavigignenti-juglandacearum)*. The fungus enters through leaf scars and wounds and kills areas of the cambium on twigs, the main stem and root flares. As these killed areas or cankers expand, branches and then eventually the entire tree is girdled and killed.

Trees of all ages, all sizes and on all sites are at risk. The USA has lost significant numbers of butternut to the canker. In Ontario and Quebec the disease is widespread and tree death is increasing. New Brunswick butternut is also now affected.

In Canada, butternut was officially listed as endangered under the *Species at Risk Act* (SARA) in 2005. In Ontario Butternut is listed as an endangered species under the *Endangered Species Act* (ESA 2007).

For information on what the Endangered status means for the butternut on your land contact your local office of the Ontario Ministry of Natural Resources (see phone book blue pages), or call 1-800-667-1940. Also check the FGCA website - www.fgca.net for additional butternut information.

A released, vigorous butternut crown

Symptoms of Butternut Canker

Dark, sunken, elongated cankers on branches and stem. Under the bark the wood is stained in a dark diamond shape

Older cankers may have loose bark over them

Dying, dead branches in the sunlit part of the crown (dead shaded branches are normal).

In the spring, a thin black fluid oozes from the cracks in the bark.

The rest of the year, the fluid forms a dry, sooty patch on the bark over the canker.

Epicomic branching below cankers on stem and branches.

Managing butternut in your woodlot

Butternut is our most northern edible nut species and provides valuable food for wildlife. They thrive on limestone soils with good soil moisture but are found on drier sites. They are intolerant of shade and not long lived (< 100 yrs). They need full sunlight to regenerate, but eventually longer lived species such as sugar maple can shade them out of the forest.

There is no known cure for the canker, and no butternut with proven resistance to the canker. However, researchers in the USA have found trees that are vigorously surviving. Based on the USA experience, the Ontario Recovery Team recommends retaining the trees in your forest that meet these guidelines:

- Trees with > 50% live crown and no canker on the main stem
- Trees with > 70% live crown and < 20% of the main stem's circumference cankered

These trees may live 15 more years and some of them may have genetic resistance. They should be left to grow and reproduce.

Consider removing trees that are shading these butternut, to help maintain their vigour and encourage seed production.

Potentially Resistant Butternut

The Ontario Recovery Team hopes to locate trees that may be resistant to the canker, to include in a long term resistance screening and breeding program. Contact us if you have a mature tree that meets all of the following criteria:

- is 25 cm in diameter at 1.5 metres above the ground
- has callused cankers or no visible cankers
- is within 40 metres of a badly infected tree
- you will allow us to sample from (twigs and seed) over several years.